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Case Report

Complete response with pegylated liposomal doxorubicin as a second-line therapy in metastatic ovarian carcinosarcoma: Significance of assessment of the response by FDG-PET

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Introduction

Carcinosarcomas of the ovary are aggressive neoplasms account for approximately 1% of all ovarian malignancies (Cicin et al., 2008). Ovarian carcinosarcomas are usually diagnosed at an advanced stage with a poor long-term prognosis. The treatment for advanced disease consists of complete surgical staging and debulking and postoperative chemotherapy. The optimal chemotherapy regimen is still debated, although the majority favors a platinum-based treatment. We present a patient with ovarian carcinosarcoma treated with pegylated liposomal doxorubicin (PLD) as a second-line therapy who had a complete response, as assessed by ^{18}F-fluorodeoxyglucose (FDG-PET).

Case report

A 68-year-old woman diagnosed with an ovarian carcinosarcoma was admitted to our hospital. A physical evaluation and radiology tests revealed ascites and intestinal occlusion secondary to peritoneal carcinomatosis. Initial cytoreductive surgery was rejected, and she started treatment with carboplatin (AUC 5) and paclitaxel (175 mg/m^2) every three weeks, improving her symptoms dramatically. After she had completed three cycles, a computer tomography (CT) scan showed a stable disease. At that point, cytoreductive surgery was performed without any post-surgery complications. Due to the presence of upper and posterior right-lobe liver implants, optimal debulking could not be achieved. A pathological analysis of the tumor implants revealed a residual heterologous carcinosarcoma with an extent of histological necrosis of >80%. As complementary therapy, the patient received three cycles of the same treatment schedule.

Eight months after the diagnosis, the patient developed liver metastases, and second-line chemotherapy treatment with PLD was started (40 mg/m^2 every four weeks) (Fig. 1). As main toxicity, she experienced grade III palmar-plantar erythrodysesthesia (according to the Common Terminology Criteria for Adverse Events v3.0), which required a reduction in the dose of the drugs. A CT scan performed after the third cycle showed that the liver lesions had increased in size but had decreased in density, which suggested intratumoral necrosis (Fig. 2). In the PDG-PET scan, no intensely increased glucose metabolism was shown in the lesions, supporting the presence of necrosis, and no evidence of tumoral viability was reported

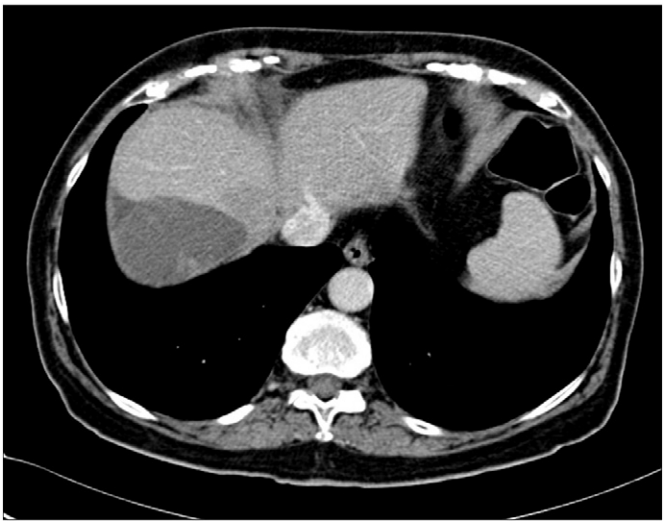

Fig. 1. CT at diagnosis of liver metastasis.

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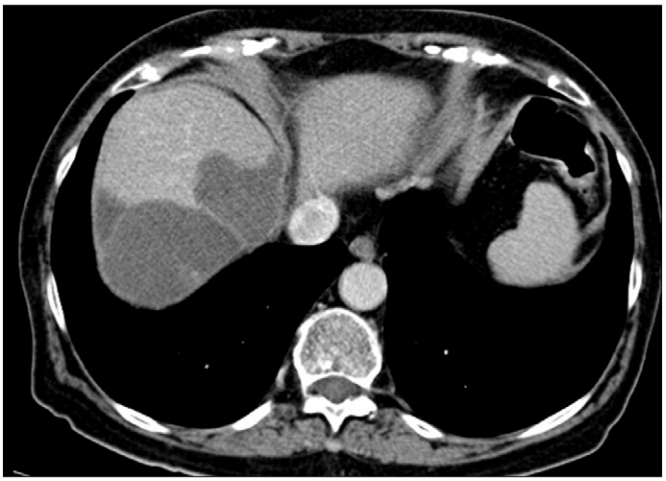

Fig. 2. CT at revaluation after three cycles of chemotherapy: the solid lesion had increased the size (about 42 mm), but lower density.

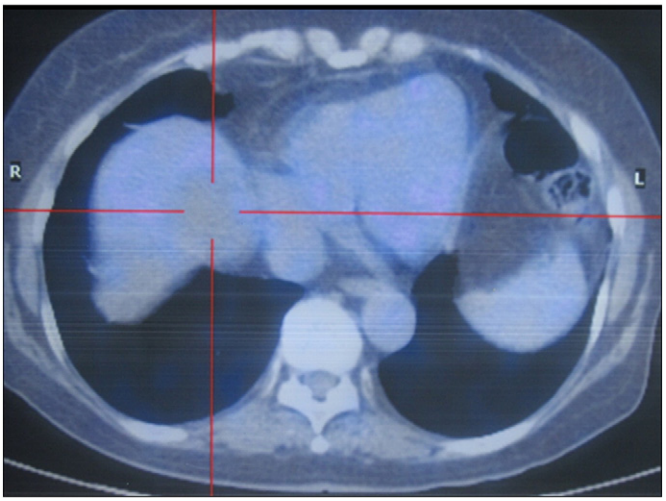

Fig. 3. PDG-PET scan at revaluation showed no evidence of tumoral viability in the lesions.

(Fig. 3). The patient received up to ten cycles of PLD with an acceptable tolerance and maintained a complete response until she experienced a retroperitoneal progression.

Discussion

Ovarian carcinosarcomas are highly aggressive and rapidly progressive tumors with a poor long-term prognosis (Cicin et al., 2008). Histologically, carcinosarcomas are epithelial tumors that have both a carcinomatous and a sarcomatous component.

Data regarding ovarian carcinosarcomas are scarce and retrospective. Although the optimal postoperative chemotherapy for ovarian carcinosarcoma is debatable, there is a consensus on the use of platinum-based regimens, generally in combination with paclitaxel or ifosfamide. The overall response rate (ORR) to platinum-based chemotherapy for patients with ovarian carcinosarcoma varies between 25% and 70%, whereas median overall survival ranges from 8 to 16 months (Cicin et al., 2008).

There is little evidence regarding the effectiveness of second-line therapies. In a study, single-agent ifosfamide showed an ORR of 17.9% in patients with recurrent disease (Sutton et al., 1994). The role of anthracycline-based chemotherapy treatment for this rare tumor entity remains controversial. Morrow et al. (1986) showed that doxorubicin alone had limited efficacy as a first-line treatment in this disease. To our knowledge, the effectiveness of PLD in ovarian carcinosarcomas has not been reported previously. Our patient had a complete response with this agent as a second-line therapy, with an acceptable toxicity profile.

Furthermore, our case illustrates that the Response Evaluation Criteria in Solid Tumors (RECIST) metric is unreliable in predicting the histopathological treatment response in carcinosarcomas. In our patient, pathological analyses of the tissue removed during the debulking surgery showed more than 75% pathological necrosis, whereas the CT scan revealed stable disease. Furthermore, changes in tumor size evaluated on the CT scan after the treatment with PLD were poorly correlated with the metabolic changes and the tumoral viability (and outcome). A recent study showed that FDG-PET was significantly more accurate than size-based criteria at assessing the histopathological response to neoadjuvant therapy in high-grade, soft-tissue sarcomas (Evilevitch et al., 2008). In our opinion, FDG-PET should be considered as a modality to monitor the treatment response in patients with carcinosarcoma of the ovary.

In conclusion, our case illustrates that PLD might have a role in the treatment of ovarian carcinosarcoma that should be evaluated in future studies. This case also emphasizes the need to monitor the treatment response in these patients with FDG-PET.

Conflict of interest statement
The authors declare that there are no conflicts of interest.

References

Cicin, I., Saip, P., Era, Y., Selam, M., Topuz, S., Ozluk, Y., et al., 2008. Ovarian carcinosarcomas: clinicopathological prognostic factors and evaluation of chemotherapy regimens containing platinum. Gynecol. Oncol. 108, 136–140.

Evilevitch, V., Weber, W.A., Tap, W.A., Allen-Auerbach, M., Chow, K., Nelson, S.D., et al., 2008. Reduction of glucose metabolic activity is more accurate than change in size at predicting histopathologic response to neoadjuvant therapy in high-grade soft-tissue sarcomas. Clin. Cancer Res. 14 (3), 715–720.

Morrow, C.P., Bundy, B.N., Hoffman, J., Sutton, G., Homesley, H., 1986. Adriamycin chemotherapy for malignant mixed mesodermal tumor of the ovary. A Gynecologic Oncology Group Study. Am. J. Clin. Oncol. 9 (1), 24–26.

Sutton, G.P., Blessing, J.A., Homesley, H.D., Malfetano, J.H., 1994. A phase II trial of ifosfamide and mesna in patients with advanced or recurrent mixed mesodermal tumors of the ovary previously treated with platinum-based chemotherapy: a Gynecologic Oncology Group Study. Gynecol. Oncol. 53, 24–26.